

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Original): A switching power supply circuit having a switching element for controlling on/off state of an input power supply according to a drive pulse generated on the basis of a clock pulse having a prescribed period, wherein an electric current is allowed to flow from the input power supply to a load by controlling the switching element to be in on state, and a flywheel current is allowed to flow to the load by controlling the switching element to be in off state; the switching power supply circuit comprising:

overcurrent detecting means for detecting that the current flowing through the switching element has reached a first reference value;

flywheel current detecting means for detecting that the flywheel current has reached a second reference value; and

an overcurrent protection circuit for performing an overcurrent protection operation of turning the switching element off based on a detected output of the overcurrent detecting means, and for turning the switching element on during the overcurrent protection operation at a timing of the clock pulse after the flywheel current detected by the flywheel current detecting means has reached the second reference value.

Claim 2 (Original): The switching power supply circuit according to claim 1, wherein the flywheel current detecting means detects the flywheel current based on an output of a current detection resistor provided in a flywheel current path.

Claim 3 (Original): The switching power supply circuit according to claim 1, wherein the flywheel current detecting means comprises a second switching element provided in the flywheel current path and being turned on and off in synchronism with the first-mentioned switching element, and detects the flywheel current using a resistance of the second switching element in on state.

Claim 4 (Original): The switching power supply circuit according to claim 1, wherein the flywheel current detecting means further comprises a third switching element provided in the flywheel current path and constitutes a current mirror together with the second switching element that is turned on and off in synchronism with the first-mentioned switching element,

whereby the flywheel current detecting mean detects the flywheel current based on the current flowing through the third switching element.

Claim 5 (Original): The switching power supply circuit according to claim 1, wherein the second reference value is set to a value of zero or above.

Claim 6 (Currently Amended): A switching power supply circuit comprising:

- a switching element provided with a source terminal, a drain terminal and a gate terminal;
- a power supply source connected to the source terminal;
- a load connected to the drain terminal;
- a control circuit connected to the gate terminal;
- an inductor disposed in a current path from the drain terminal to the load;
- a first current detection resistor ~~disposed in a current path~~ for detecting a current flowing  
from the source terminal to the [[load]] drain terminal;
- a first comparator connected to the first current detection resistor;
- a second current detection resistor disposed in a current path from the drain terminal to the  
ground terminal; and
- a second comparator connected to the second current detection resistor.

Claim 7 (Original): The switching power supply circuit according to claim 6, wherein the second comparator uses a ground potential or positive potential as a reference.

Claim 8 (Original): An overcurrent protection method for a switching power supply circuit having a switching element for controlling on/off state of an input power supply according to a drive pulse generated on the basis of a clock pulse having a prescribed period, wherein an electric current

is allowed to flow from the input power supply to a load by controlling the switching element to be in on state, and a flywheel current is allowed to flow to the load by controlling the switching element to be in off state; the overcurrent protection method comprising:

detecting that the current flowing through the switching element has reached a first reference value;

detecting with an overcurrent detecting means that the current flowing through the switching element has reached a first reference value;

detecting with flywheel current detecting means that the flywheel current has reached a second reference value;

performing an overcurrent protection operation for turning off the switching element based on a detected output of the overcurrent detecting means; and

turning on the switching element during the overcurrent protection operation at a timing of the clock pulse after the flywheel current detected by the flywheel current detecting means has reached the second reference value.